

wherein a mixture including about 20 weight percent of said triblock copolymer and about 80 weight percent toluene, the weight percentages based on the total weight of the mixture, at from about 25 degrees Celsius to about 30 degrees Celsius, does not form a solution;

wherein said plasticizer associates with said hydrogenated polymer B;

wherein said triblock copolymer has a measurable percent elongation at break;

wherein said plasticizer tends to increase the percent elongation at break of said triblock copolymer;

wherein said triblock copolymer has a rigidity measurable on the Gram Bloom scale; and

wherein said plasticizer tends to decrease the Gram Bloom rigidity of said triblock copolymer;

(c) mixing said plasticizer and said triblock copolymer by a method selected from the group consisting of melt blending and use of a compounding screw in order to produce a gelatinous elastomer,

(d) permitting said gelatinous elastomer to cool,

(e) selecting a forming device ^{either} ~~such as~~ a die or mold,

(f) melting said gelatinous elastomer, and

(g) forcing said gelatinous elastomer into said forming device in order to form a gelatinous elastomer part.

22. (newly added) A method as recited in claim 21 wherein said triblock copolymer has a weight average molecular weight of at least about 300,000.

23. (newly added) A method as recited in claim 21 wherein said plasticizer includes an oil.

24. (newly added) A method as recited in claim 21 further comprising shaping said gelatinous elastomer into pellets prior to melting said gelatinous elastomer.

25. (newly added) A method for manufacturing a gelatinous elastomer article comprising the steps of:

selecting a plasticizer,

selecting a triblock copolymer of the general configuration A-B-A,

wherein B is a hydrogenated polymer including ethylene/propylene and ethylene/butylene;

wherein the combined weights of said ethylene/propylene and said ethylene/butylene comprise more than about 50 weight percent of said hydrogenated polymer B;

wherein said plasticizer associates with said hydrogenated polymer B;

wherein said triblock copolymer has a measurable percent elongation at break;

wherein said plasticizer tends to increase the percent elongation at break of said triblock copolymer;

wherein said triblock copolymer has a rigidity measurable on the Gram Bloom scale; and

wherein said plasticizer tends to decrease the Gram Bloom rigidity of said triblock copolymer;

mixing said plasticizer and said triblock copolymer by a method selected from the group consisting of melt blending and use of a compounding screw in order to produce a gelatinous elastomer, permitting said gelatinous elastomer to cool,

selecting a forming device ^{either} ~~such as~~ a die or mold,

melting said gelatinous elastomer, and

forcing said gelatinous elastomer into said forming device in order to form a gelatinous elastomer part.

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~~26~~. (newly added) A method as recited in claim ~~25~~ ⁵ wherein said triblock copolymer has a weight average molecular weight of at least about 300,000.

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~~27~~. (newly added) A method as recited in claim ~~25~~ ⁵ wherein said plasticizer includes an oil.

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~~28~~. (newly added) A method as recited in claim ~~25~~ ⁵ further comprising shaping said gelatinous elastomer into pellets prior to melting said gelatinous elastomer.

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~~29~~. (newly added) A method for manufacturing a gelatinous elastomer article comprising the steps of:

(a) selecting a plasticizer that includes a plurality of plasticizing polymer molecules,

(b) selecting an elastomer comprising a plurality of elastomeric triblock copolymers of the general configuration A-B-A, each of said triblock copolymers having:

two end blocks A and

one mid block B, and

a plurality of hollow spherical objects;
wherein each of said mid block B is covalently linked to one of said end blocks A;
wherein said end blocks A are non-elastomeric polymers;
wherein said mid block B is an elastomeric polymer,
wherein said mid block B of at least some of said triblock copolymers includes a plurality of backbone carbon molecules and a plurality of side chains;
wherein said elastomer has a weight average molecular weight of at least about 300,000 when determined by gel permeation chromatography;
wherein said plasticizing polymer molecules, upon placement of the material under a load, tend to facilitate disentanglement and elongation of said mid blocks B during elongation of the material;
wherein said plasticizing polymer molecules, upon release of the load from the material, tend to facilitate recontraction of the material;
wherein said plasticizing polymer molecules comprise at least about 60 weight percent of the material, based on the combined weights of said triblock copolymers and said plasticizing polymers;
wherein said elastomer has a measurable percent elongation at break;
wherein said plasticizer tends to increase the percent elongation at break of said elastomer;
wherein said elastomer has a rigidity measurable on the Gram Bloom scale, and
wherein said plasticizer tends to decrease the Gram Bloom rigidity of said elastomer;
(c) mixing said plasticizer and said triblock copolymer by a method selected from the group consisting of melt blending and use of a compounding screw in order to produce a gelatinous elastomer,
(d) permitting said gelatinous elastomer to cool,
(e) selecting a forming device,
(f) melting said gelatinous elastomer, and
(g) using said forming device in order to form said gelatinous elastomer into a desired shape.

~~30~~¹⁰. (newly added) A method as recited in claim ~~29~~⁹ further comprising mixing microspheres with said plasticizer and said elastomer in order to form a gelatinous elastomer in which an amount of physical volume is occupied by said microspheres so that a gelatinous elastomer is achieved which has a lower specific gravity than said gelatinous elastomer without said microspheres.

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31. (newly added) A method as recited in claim ~~29~~⁹ wherein said plasticizer includes an oil.

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32. (newly added) A method as recited in claim ~~29~~⁹ further comprising shaping said gelatinous elastomer into pellets prior to melting said gelatinous elastomer.

Remarks

Prior Art

In the office action, the examiner requested information concerning Septon 4055. Applicant encloses herewith a brochure concerning Septon 4055 and other Kuraray products and a Material Safety Data Sheet concerning Septon 4055.

Restriction Requirement

Applicant has cancelled claims directed to non-elected species.

§ 112

Applicant has also cancelled all pending claims in order to present new claims that do not have the § 112 problems identified by the examiner in the previous claims.

The examiner stated that the present application does not teach how to form a triblock copolymer "wherein a mixture including about 20 weight percent of said triblock copolymer and about 80 weight percent toluene, the weight percentages based on the total weight of the mixture, at from about 25 degrees Celsius to about 30 degrees Celsius, does not form a solution". Such triblock copolymers are commercially available from Kuraray of Japan in the form of products including Septon 4055. The application at pages 62-64 discusses such copolymers. As it is not the present invention to manufacture a copolymer, Applicant has identified a commercially available source of copolymers rather than instructing the manufacture of one.

§§102 & 103

Applicant does not believe that Chen anticipates the claims. The present claims relate to a method for manufacturing a gelatinous elastomer article, where the gelatinous elastomer has particular recited characteristics. The characteristics of the gelatinous elastomer have already been determined patentable over Chen in claims 1, 12 and 37 (roughly corresponding to claims 21, 25 and 29 herein) of U.S. Patent No. 5,994,450. Applicant should not have to revisit that patentability